A Road Map for Desalination in California:

Governor's Task Force Recommends Considering Desalination as Part of a Balanced Water Portfolio

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After six months of deliberations, the California Water Desalination Task Force completed its mission. This mission, as called for by Assembly Bill 2717, (Chapter 957, Statutes of 2002), was to look into potential opportunities and impediments for using seawater and brackish water (water containing more salts than freshwater, but less than seawater) desalination and to examine what role the state of California should play in furthering the use of desalination technology. As a result, the Department of Water Resources submitted a final report to the Legislature that contains the Task Force findings and recommendations; the report was prepared with significant input from its members (comprised of representatives from 27 organizations). It also draws upon the experience of many agencies, experts, and different stakeholders to provide advice and guidance that can be used to facilitate desalination planning. In its submittal letter to the Legislature, DWR explained that the findings should help clarify some of the important issues regarding desalination and help to further the use of desalinated water in California.

The report contained facts and figures about brackish and seawater desalination in general and highlights of environmental issues as well as cost, energy and permitting issues, and an outline of key findings that provides context for evaluating desalination. One of the primary findings is that economically and environmentally acceptable desalination should be considered as part of a balanced water portfolio to help meet California's existing and future water supply and environmental needs. The Task Force also forecasted that the potential for the increased use of desalination in California is significant and that the opportunities are great for providing water supply from seawater and brackish water desalination as well as recovering contaminated groundwater. Existing and envisioned desalination facilities could generate an estimated 700,000 acre-feet per year in the next decade. The Task Force put forward a set of 29 recommendations classified into four categories.

The California Water Desalination Task Force was convened by DWR and was chaired by Deputy Director Jonas Minton with co-chairs from the State Water Resources Control Board, the State Energy Commission, the State Department of Health Services, and the California Coastal Commission. For more information on the Water Desalination Task Force, and a copy of the Findings and Recommendations, visit the Task Force Web site at: www.owue.water.ca.gov/recycle/desal/desal.cfm.

The Desalination Task Force field trip to Marina Coast Water District's desalination facility on August 27, 2003.

The 4th Desalination Task Force meeting on August 26, 2003, in Monterey, California.

Water Desalination Task Force Recommendations

General Recommendations:

1. Since each desalination project is unique and depends on project-specific conditions and considerations, each project should be evaluated on a case-by-case basis.
2. Include desalination, where economically and environmentally appropriate, as an element of a balanced water supply portfolio, which also includes conservation and water recycling to the maximum extent practicable.
3. Ensure equitable access to benefits from desalination projects and ensure desalination projects will not have disproportionate impacts particularly to low-income and ethnic communities.
4. The state should create mechanisms that allow the environmental benefits associated with transitioning dependence on existing water sources to desalinated water to be realized.
5. In conjunction with local governments, assess the availability of land and facilities for environmentally and economically acceptable seawater desalination.
6. Results from monitoring at desalination projects should be reported widely for the broadest public benefits. Encourage opportunities to share information on operational data. Create a database and repository for storing and disseminating information.
7. Create an Office of Desalination within the Department of Water Resources to advance the state's role in desalination.

Water Desalination Task Force Recommendations

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Energy and Environment Related Recommendations:

8. Ensure seawater desalination projects are designed and operated to avoid, reduce or minimize impingement, entrainment, brine discharge and other environmental impacts. Regulators, in consultation with the public, should seek coordinated mechanisms to mitigate unavoidable environmental impacts.
9. Identify ways to improve water quality by mixing desalinated water with other water supplies.
10. Where feasible and appropriate, use wastewater outfalls for blending/discharging desalination brine/concentrate.
11. Compare reasonable estimates of benefits, costs and environmental impacts for desalination with those for other water supply alternatives realistically available to that area.
12. Recognizing the importance of power costs to the costs of desalination, consider strategies that will allow project sponsors to access non-retail power rates.
13. Clarify the applicability of non-retail energy pricing for desalination facilities.
14. Study the energy intensity and rates currently paid for energy used to provide water from various sources including desalination.
15. Study the potential for developing renewable energy systems in California, in conjunction with desalination implementation strategies.
16. Identify ways that desalination can be used in a manner that enhances, or protects the environment, public access, public health, view sheds, fish and wildlife habitat and recreation.

Planning and Permitting Related Recommendations:

17. To improve communication, cooperation, and consistency in permitting processes, encourage review processes for each desalination project to be coordinated among regulators and the public.
18. Evaluate all new water supply strategies including desalination based upon adopted community General Plans, Urban Water Management Plans, Local Coastal Plans, and other approved plans that integrate regional planning, growth and water supply/demand projections. Environmental reviews should ensure that growth related impacts of desalination projects are properly evaluated.
19. Ensure adequate public involvement beginning early in the conception and development of desalination projects and continuing throughout planning, design and evaluation processes. Coordinate public notification, outreach and public involvement strategies.
20. If multiple desalination projects are proposed within a region, coordinate development and analysis of these projects, including their benefits and cumulative impacts.
21. For proposed desalination facilities co-locating with power plants, analyze the impacts of the desalination facility operations apart from the operations of the co-located facilities. This will identify the impacts of the desalination facility operations when there are reductions in cooling water quantities. This recommendation is not intended to dictate California Environmental Quality Act alternatives that must be evaluated.
22. When desalination projects propose environmental benefits, identify the assurances that those benefits will be realized.
23. Evaluate the effects of desalinated water on existing water supply distribution systems.
24. Each community should consider the appropriate role, if any, for private companies in a desalination project or proposal.
25. Private desalination projects, and private developers and plant operators, should be required to fully disclose the same information as a publicly owned and operated facility.
26. To avoid potential international trade agreement violations, no legal standard or regulation should discriminate against an applicant based on ties to multinational corporations.
27. Investigate the ramifications of designating ocean and estuarine waters in proximity to desalination intakes as drinking water beneficial use.

Funding Related Recommendations:

28. Provide funding for research and development projects (such as feedwater pretreatment, the value and limitations of beach wells for feedwater intake, other technologies to reduce entrainment and impingement impacts, strategies for brine/concentrate management, opportunities for energy efficiencies and application of alternative energy sources and combined energy and desalination technologies).
29. In addition to other eligibility criteria, state funding should give high priority to those desalination projects that provide the greatest public benefits, such as: 1) serve areas implementing all conservation and recycling programs to the maximum extent practicable, 2) demonstrate long-term environmental benefits, 3) avoid or reduce environmental impacts to the extent possible, 4) reduce health risks by improving water quality, and 5) ensure equitable access to benefits from desalination projects and include feasible mitigation for any environmental justice impacts.